REMARKS

Claims 1, and 4-9 are pending in this application. Claims 2, 3 and 10-30 are withdrawn from consideration. By this Amendment, claim 7 is amended.

I. Drawings

The Applicant gratefully acknowledges the acceptance of the drawings filed on November 28, 2003, and June 28, 2004.

II. Claim Objections

The Office Action asserts that claim 7 is objected to because the acronym MOD should be followed by the words that it represents. Based on the Examiner's recommendation, claim 7 has been amended. Therefore, it is respectfully requested that the Examiner reconsider and withdraw the objection.

III. Claim Rejections Under 35 U.S.C. §102

Claim 1 is rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,143,366 to Lu (hereinafter "Lu"). Additionally, claim 1 is also rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,730,562 to Engelhardt et al. (hereinafter "Engelhardt").

The Office Action asserts that Lu discloses a method of manufacturing a ceramic film, comprising: crystallizing a raw material including a complex oxide by subjecting the raw material to a heat treatment in an atmosphere pressurized to two atmospheres or more, and containing oxygen at a volume ratio of 10% or less. We respectfully traverse the rejection.

Specifically, Lu does not disclose crystallizing a raw material including a complex oxide by subjecting the raw material to a heat treatment in an atmosphere pressurized to two atmospheres or more and containing oxygen at a volume ratio of 10% or less. Instead, Lu teaches crystallizing a raw material during the temperature raising process, by subjecting the raw material to a heat treatment while applying a pressure. Lu fails to teach crystallizing a

raw material by subjecting the raw material to a heat treatment in an atmosphere containing oxygen at a volume ratio of 10% or less.

The Office Action relies on Englehardt as a prior art reference based on a PCT filing date of August 7, 2001. However, 35 U.S.C. §102(e) stipulates that an international application filed under the PCT shall have the effect of a patent filed in the U.S. only if the international application designated the U.S. and was published in the English language. Englehardt did designate the U.S. but was not published in the English language. Therefore, Englehardt is not a proper prior art reference.

However, in the alternative, the applicant presents the argument that the present invention is distinct from Englehardt. Therefore, if Englehardt were a properly dated reference, it would be insufficient to support the rejection in anticipation.

The Office Action asserts that Engelhardt discloses a method of manufacturing a ceramic film, comprising: crystallizing a raw material including a complex oxide by subjecting the raw material to a heat treatment in an atmosphere pressurized to two atmospheres or more and containing oxygen at a volume ratio of 10% or less.

Engelhardt does not teach a method of manufacturing a ceramic film, comprising: crystallizing a raw material including a complex oxide by subjecting a raw material to a heat treatment in an atmosphere pressurized to two atmospheres or more and containing oxygen at a volume ratio of 10% or less. Instead, Engelhardt teaches the purpose of the heat treatment is not for crystallizing a raw material but for recovering etching damage in a crystallized SBT (col. 3, lines 53-59).

Based on the arguments presented above, claim 1 is in condition for allowance. Therefore, we respectfully request the Examiner reconsider and withdraw the rejection.

IV. Claim Rejections Under 35 U.S.C. §103(a)

Claims 4-6 are rejected under 35 U.S.C. §103(a) as being unpatentable over Lu in view of U.S. Patent No. 6,407,010 to Ashizawa et al. (hereinafter "Ashizawa"). Furthermore, claims 7-9 are rejected under 35 U.S.C. §103(a) as being unpatentable over Lu in view of U.S. Patent Application 2004/0125176 of Kobayashi et al. (hereinafter "Kobayashi"). Claim 7 is further rejected under 35 U.S.C. §103(a) as being unpatentable over Lu in view of U.S. Patent No. 5,520,855 to Ito et al. (hereinafter "Ito"). Furthermore, claim 1 is rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,150,183 to Fukuda et al. (hereinafter "Fukuda") in view of U.S. Patent No. 6,338,996 to Iizuka (hereinafter "Iizuka"). Additionally, claim 4 is rejected under 35 U.S.C. §103(a) as being unpatentable over Fukuda and Iizuka in view of Ashizawa.

With respect to independent claim 1, the Office Action asserts that Fukuda discloses a method of manufacturing a ceramic film, comprising: crystallizing raw material including a complex oxide by subjecting a raw material to a heat treatment in an atmosphere pressurized to two atmospheres or more and containing oxygen. The Office Action acknowledges that Fukuda does not disclose the method wherein the metal oxide is crystallized at a volume ratio of oxygen of 10% or less. Therefore, the Office Action relies on Iizuka to disclose the method of crystallizing the metal oxide at a volume ratio of oxygen of 10% or less. We respectfully traverse the rejection.

Fukuda does not disclose crystallizing a raw material including the complex oxide by subjecting the raw material to a heat treatment in an atmosphere pressurized to two atmospheres or more and containing oxygen. Instead, Fukuda teaches performing a post-annealing in an atmosphere including high pressure oxygen. Fukuda discloses a BST film being formed by a CVD method. In other words, the post-anneal disclosed in Fukuda is

directed toward maintaining an excellent interface between the BST film and the Pt electrode but is not for crystallizing the BST.

Similarly, Iizuka teaches a post-anneal but nothing on subjecting a raw material to a heat treatment in an atmosphere containing low oxygen concentration while applying a pressure, for crystallizing the raw material. Iizuka merely teaches crystallization of the BST film through a sputtering process. Moreover, in Iizuka, after the upper electrode is formed, a post-anneal is performed, in order to recover defects which have been created from sputtering during formation of the upper electrode.

Therefore, neither Fukuda nor Iizuka, standing alone or in combination, suggest or teach crystallizing a raw material including a complex oxide by subjecting the raw material to a heat treatment in an atmosphere pressurizing to two atmospheres or more and containing oxygen at a volume ratio of 10% or less. Thus, we respectfully request the Examiner reconsider and withdraw the rejections.

Based on the argument presented above, independent claim 1 is in condition for allowance. Therefore, dependent claims 4-9, depending either directly, or indirectly, from independent claim 1, are also in condition for allowance.

V. Double Patenting

Claims 1, and 4-9 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of copending Application No. 10/793,889, claims 1-18 of copending Application No. 10/808,417, and claim 1-8 of copending Application No. 10/800,717 in view of Iizuka. We respectfully traverse the double patenting rejections.

The invention of U.S. Patent Application No. 10/793,889 is different from the present invention in that the former includes a restrictive element like having a material body, which

includes a complex oxide including Pb or Bi. Pb or Bi in the complex oxide is in an amount of at most 5% in excess of Pb or Bi in the stoichiometric composition.

The present invention is different from the invention of U.S. Patent Application No. 10/808,417 in that the latter includes a restrictive element like repeating a heat treatment at lowering temperatures while lowering a pressure in order to crystallize a complex oxide, after raising a temperature in an atmosphere containing a low oxygen concentration, while applying the pressure.

The claim scope of U.S. Patent Application No. 10/800,717 includes a method of forming a capacitor which performs an anneal at an atmospheric pressure of 1 atm or less in an atmosphere including nitrogen at a volume ratio of 5% or less. Nevertheless, U.S. Patent Application No. 10/800,717 is different from the present invention in that it does not have a restrictive element like performing a heat treatment while applying a pressure of 2 atm or higher.

Therefore, based on the arguments presented above, the Applicant respectfully requests the Examiner reconsider and withdraw the double patenting rejections.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-30 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

James A. Oliff
Registration No. 27,075

Eric D. Morehouse
Registration No. 38,565

JAO:KDB/brp

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OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

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